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Abstract

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3 A method of generating IP identification numbers for IP datagrams. A plurality of
4 IP identification number generators are maintained. A plurality of receiving stations are
5 associated with the plurality of IP identification number generators such that each receiving
6 station has an IP identification number generator associated therewith. An IP identification
7 number is generated for a datagram sent to a receiving station based on an output of the
8 associated IP identification number generator. Also, a method of reducing a likelihood of
9 misassembly of received data fragments from fragmented IP datagrams. The data fragments have
10 an IP identification number. All received data fragments of the datagram are discarded upon
11 detection of receipt of an overlapping data fragment having the IP identification number.
12 Timeouts for reassembling datagrams are reduced. First, timeouts for reassembling the
13 datagrams are reduced to less than a standard timeout. Second, timeouts are reduced upon
14 detection of a gap in the received data fragments. Third, timeouts are reduced upon detection of
15 a datagram having the same protocol identification number and source address, but having a
16 different IP identification number. Furthermore, a method of detecting a likelihood of
17 misassembly of data fragments from fragmented IP datagrams. Communication errors between a
18 sending station and a receiving station are detected. A rate is determined at which an IP
19 identification number generator associated with the receiving station wraps around. NFS re-
20 transmissions are determined. Based on one or more of these, a likelihood of misassembly at the
21 receiving station is determined to be high.